

AMENDMENT TO THE CLAIMS

Please amend the pending claims as follows:

1. (Currently amended) Polycrystalline alumina components ~~with an additive of at least 0.001 wt-% ZrO₂ and~~ optionally containing MgO in a concentration of at most 0.3 wt-% characterized in that the alumina contains ~~at most~~ a concentration from 0.1 to 0.5 wt-% ZrO₂ inclusive as an additive and has an average crystal size $\leq 2 \mu\text{m}$, and a relative density higher than 99.95% with a real in-line transmission RIT $\geq 30\%$ measured over an angular aperture of at most 0.5° at a sample thickness of 0.8 mm and with a monochromatic wavelength of light λ .
2. (Original) Polycrystalline alumina components according to claim 1, characterized in that the average crystal size is $\leq 1 \mu\text{m}$ and the real in-line transmission RIT is at least 40%.
3. (Original) Polycrystalline alumina components according to claim 1, characterized in that the ZrO₂ additive is in a concentration from 0.1 wt-% to 0.3 wt-%, inclusive.
4. (Original) Discharge lamp characterized in that the lamp is provided with a discharge tube having a wall of a ceramic as claimed in claim 1.
5. (Original) Lamp according to claim 4 characterized in that the discharge tube has an ionisable filling containing a metal halide.
6. (Original) Method for forming a polycrystalline alumina component as claimed in claim 1 characterized in that the process includes the steps of
preparing a slurry of corundum power with a mean grain size $\leq 0.2 \mu\text{m}$,
adding a dopant, selected from zirconia and a zirconium containing precursor,
casting the slurry in a mould, drying and sintering of the moulded body thus formed, and
performing a HIP treatment at a temperature of at least 1150°C for at least 2 hours.

7. (Original) Method according to claim 6, wherein the dopant is added as finely grained ZrO_2 .
8. (Original) Method according to claim 6, wherein the finely grained ZrO_2 dopant has an average particle size of at most 100 nm.
9. (Original) Method according to claim 6, wherein after the addition of the zirconia dopant the prepared slurry is slip cast in a mould.
10. (Original) Method according to claim 6, wherein after the addition of the zirconia dopant the prepared slurry is gel cast in a mould.
11. (New) Polycrystalline alumina components characterized in that the alumina contains a concentration between 0.1 to 0.5 wt-% ZrO_2 inclusive as an additive, has an average crystal size $\leq 2 \mu\text{m}$, and has a relative density higher than 99.95%.
12. (New) The polycrystalline alumina components of claim 11 further characterized in that the alumina contains MgO in a concentration of at most 0.3 wt-%.
13. (New) Discharge lamp characterized in that the lamp is provided with a discharge tube having a wall of a ceramic as claimed in claim 11.
14. (New) Method for forming a polycrystalline alumina component as claimed in claim 11 characterized in that the process includes the steps of
preparing a slurry of corundum power with a mean grain size $\leq 0.2 \mu\text{m}$,
adding a dopant, selected from zirconia and a zirconium containing precursor,
casting the slurry in a mould, drying and sintering of the moulded body thus formed, and
performing a HIP treatment at a temperature of at least 1150° C for at least 2 hours.